HEMLOCK SEMICONDUCTOR

September 3, 2013

Tennessee Department of Environment and Conservation
Division of Water Resources
Erin O'Brien
L&C Annex, 6th Floor
401 Church Street
Nashville, Tennessee 37243

Re: TN0080845 Permit Renewal

Dear Ms. O'Brien:

Per our conversation, we are resubmitting our renewal application for our NPDES stormwater construction permit #TN0080845. We have enclosed Forms 1 and 2F for all outfalls we wish to remain open. In addition, we are submitting a summary of the Part VII A data for each outfall we wish to remain open. Because outfall SW14 has not yet been constructed and nothing has changed since the original permit or the modification, we are including the same data as previously submitted to complete the data gaps where analytical data is not available. Finally, we are currently not actively under construction. Should construction activities begin again, we will update our SWPPP and make it available upon request.

Should you have any questions regarding this submittal, please contact me at (931) 614-1991.

Sincerely,

Jason Mennino

Enclosure(s): Form 1
Forms 2F

Please print or type in the unshaded areas only. Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL	EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY **GENERAL INFORMATION** *Consolidated Permits Program* *(Read the "General Instructions" before starting.)*	I. EPA I.D. NUMBER
			F TNR000030437 D

LABEL ITEMS		GENERAL INSTRUCTIONS
I. EPA I.D. NUMBER	PLEASE PLACE LABEL IN THIS SPACE	If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.
III. FACILITY NAME		
V. FACILITY MAILING ADDRESS		
VI. FACILITY LOCATION		

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)	16	X 17	18	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)	19	X 20	21
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	22	X 23	24	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	25	X 26	27
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	28	X 29	30	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	31	X 32	33
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	34	X 35	36	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	37	X 38	39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	40	X 41	42	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)	43	X 44	45

III. NAME OF FACILITY

C	SKIP	
1		HEMLOCK SEMICONDUCTOR LLC.
15	16 - 29	30 — 69

IV. FACILITY CONTACT

	A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2	JASON M. MENNINO, ENVIROMENTAL SPECIALIST	(931) 614-1991
15	16 — 45	46 48 49 51 52- 55

V. FACILTY MAILING ADDRESS

	A. STREET OR P.O. BOX
C 3	
15	16 — 45

	B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4	CLARKSVILLE	TN	37040
15	16 — 40	41 42	47 — 51

VI. FACILITY LOCATION

	A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER
C 5	1000 SOLAR WAY
15	16 — 45

B. COUNTY NAME
MONTGOMERY
46 — 70

	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6	CLARKSVILLE	TN	37040	
15	16 — 40	41 42	47 — 51	52 -54

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 3339 (specify) PRIMARY NONFERROUS METALS, NEC MANUFACTURE OF POLYCRYSTALLINE SILICON	7 (specify)
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME	B. Is the name listed in Item VIII-A also the owner?
8 HEMLOCK SEMICONDUCTOR, L.L.C.	☑ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other," specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

(specify)

D. PHONE (area code & no.)

A (931) 614-1991

E. STREET OR P.O. BOX

F. CITY OR TOWN	G. STATE	H. ZIP CODE	IX. INDIAN LAND
B CLARKSVILLE	TN	37040	Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N TN0080845	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
9 U MTG0000287	9 (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
9 R TNR000030437	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

THIS IS AN INDUSTRIAL FACILITY THAT PRODUCES/MANUFACTURES POLYCRYSTALLINE SILICON FROM RAW MATERIALS. POLYCRYSTALLINE SILICON IS USED WORLD WIDE IN SOLAR ENERGY AND ELECTRONICS INDUSTRIES.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
JASON M. MENNINO, HSL ENVIRONMENTAL SPECIALIST		9/3/2013

COMMENTS FOR OFFICIAL USE ONLY

C

Please print or type in the unshaded areas only.

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

FORM 2F NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (*list*)	B. Latitude			C. Longitude			D. Receiving Water (*name*)
SW1 (P-386)	36.00	37.00	5.00	-87.00	15.00	27.00	SPRING CREEK
SW4 (P-286)	36.00	36.00	55.00	-87.00	16.00	0.00	SPRING CREEK
IMP1 (P-486)	36.00	38.00	21.00	-87.00	15.00	6.00	SPRING CREEK
SW13 (P-586)	36.00	37.00	57.00	-87.00	16.00	12.00	UNNAMED TRIBUTARY TO SPRING CREEK
SWMB (P-186)	36.00	37.00	13.00	-87.00	16.00	31.00	UNNAMED TRIBUTARY TO SPRING CREEK
SW14	36.00	37.00	39.17	-87.00	16.00	34.05	UNNAMED TRIBUTARY TO SPRING CREEK

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
N/A					

B: You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility.

Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of imperious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
SW1	0 AC	49.38 AC	SW 014	83 AC	134 AC
SW4	0 AC	19.62 AC			
SWMB	273 AC	420.0 AC			
IMP1	0 AC	200 AC			
SW13	156 AC	166 AC			

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

THE SITE HAS BEEN UNDER CONSTRUCTION FOR THE PAST 5 YEARS. THIS IS A RENEWAL OF THE CURRENT STORMWATER CONSTRUCTION PERMIT.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
SW1,SW4, SWMB,IMP1, SW13,SW14	STORM WATER ENTERS SEDIMENT BASINS DESIGNED FOR 140YR STORM VIA GRASSED/RIPRAP CHANNELS. THE FINAL STORM BASIN INCLUDES A FOREBAY AND VEGATATIVE SHELF AROUND THE PERIMETER OF THE BASIN. WATER DISCHARGES AT A CONTROLLED RATE OVER A PERIOD OF 3 DAYS. ALL BASINS HAVE CONCRETE EMERGENCY SPILLWAYS AND OUTLET PROTECTION. INSPECTIONS AND MAINTENANCE IS PERFORMED AS REQUIRED. DISPOSAL OF ACCUMULATED SEDIMENT WILL BE LAND APPLICATION ON APPLICANTS PROPERTY.	1-F, 1-U,3-G,4-A, 5-P

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Patrick Finney	Patrick C. Finney	9/3/2013

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

N/A

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

N/A

Continued from Page 2

EPA ID Number *(copy from Item 1 of Form 1)*
TNR000030437

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (*list all such pollutants below*) ☑ No (*go to Section IX*)

IX. Contract Analysis Information

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☑ Yes (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ No (*go to Section X*)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Environmental Science Corp.	12065 Lebanon Road Mount Juliet, TN 37122	800-767-5859	TSS, Total Nitrogen, Phosphorus, Turbidity

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (*Type Or Print*)	B. Area Code and Phone No.
JASON M. MENNINO ENVIRONMENTAL SPECIALIST	(931) 614-1991
C. Signature	D. Date Signed

SW1

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge Information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	160		36		9.00	Construction & agricultural
Total Nitrogen	2.4		1.53		10.00	Agriculture
Total Phosphorus	0.24		0.15		6.00	Agriculture
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

SW1

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

SW 4

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	41		30		7.00	Construction & agricultural
Total Nitrogen	2.0		1.31		8.00	Agriculture
Total Phosphorus	0.22		0.16		7.00	Agriculture
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

SW4

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

IMPI

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	150		42		11.00	Construction & agricultural
Total Nitrogen	3.7		1.35		11.00	Agriculture
Total Phosphorus	1.2		0.55		6.00	Agriculture
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

IMP1

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

SW13

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	1900		265		12.00	Construction & agricultural
Total Nitrogen	4.2		1.83		12.00	Agriculture
Total Phosphorus	0.60		0.26		5.00	Agriculture
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

SW13

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

SWMB

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

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VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	1.5		1.5		1.00	Construction & agricultural
Total Nitrogen	1.1		1.1		1.00	Agriculture
Total Phosphorus	see attachment					
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Continue on Reverse

SWMB

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

SW14

EPA ID Number (*copy from Item 1 of Form 1*)
TNR000030437

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

Part A – You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	see attachment	N/A				
Biological Oxygen Demand (BOD5)	see attachment					
Chemical Oxygen Demand (COD)	see attachment					
Total Suspended Solids (TSS)	see attachment					
Total Nitrogen	see attachment					
Total Phosphorus	see attachment					
pH	Minimum	Maximum	Minimum	Maximum		

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (*if available*)	Maximum Values (*include units*)		Average Values (*include units*)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

 Continue on Reverse

SW14

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
N/A					

7. Provide a description of the method of flow measurement or estimate.

Acreage is converted to square feet then multiplied by the daily rainfall in feet. Cubic feet then converted to MGD.

FORM 2F ATTACHMENT
SECTION VII, PART A

HSC SOLAR 4 GREEN
TN0080845 MODIFICATION

In order to estimate the maximum values of the pollutants typically associated with agricultural land uses, research was conducted and summarized in Table VII-A below.

Table VII-A, Event Mean Concentration-summary of research

Pollutant	Concentration (mg/L)				
	1	2	3	4	5
BOD, 5-Day		18.3		3.8	4
COD			40		
Nitrate + Nitrite Nitrogen	2.0	0.803	0.543	2.32	1.56
Oil and Grease	3.5	0.5e			
pH		5.0-9.0			
Total Phosphorus (as P)	0.30	2.349	0.121	0.344	0.36
Total Suspended Solids (TSS)	80	12.7	70	55.3	

1. Maryland Department of Environment, BMP Manual.
2. Developing nonpoint source water quality levels of service for Hillsborough County, Florida, Robert G. McConnell, Elie, G. Araj, David T. Jones, 1999.
3. Stormwater Chemistry and Water Quality, Harvey H. Harper, Ph.D., P.E.
4. Summary of Literature-Based Runoff Concentrations, EPA, Final Report of Urban Runoff Program, Final Draft, Vol. 1. WH-554, Water Planning Division, December 1983.
5. A GIS Based Nonpoint Pollution Simulation Model, Benaman, J., 1996

e. Below Detection Limit (BDL).

The values from Table VII-A are represented in Table VII-B and Table VII-C as proposed maximum and proposed average values respectfully, for all outfalls.

Table VII-B, Proposed Maximum Values

Parameter	Concentration (mg/L)
BOD, 5-Day	18.3
COD	40
Nitrate + Nitrite Nitrogen	2.32
Oil and Grease	3.5
pH	5.0-9.0
Total Phosphorus (as P)	2.349
Total Suspended Solids (TSS)	80

Grab Sample Taken During First 20 Minutes of Discharge
Source of Pollutants = Storm Water Runoff
Number of Storm Events Sampled = 1, Total rainfall greater than 0.50 inches and dry for previous 3 days.

Table VII-C, Proposed Average Values

Parameter	Concentration (mg/L)
BOD, 5-Day	10
COD	40
Nitrate + Nitrite Nitrogen	1.45
Oil and Grease	3.5
pH	5.0-9.0
Total Phosphorus (as P)	0.70
Total Suspended Solids (TSS)	55

Flow-Weighted Composite taken every 4 hours during the course of discharge
Source of Pollutants = Storm Water Runoff
Number of Storm Events Sampled = 1, Total rainfall greater than 0.50 inches and dry for previous 3 days.

Stormwater benchmark concentrations for TSS from construction sites usually range from 100 to 250 mg/L.

Schedule of estimated flows from temporary sediment basins based on 10 year storm:

Drainage Area / Temp. Sed. Basin	Inflow (cfs)	Outflow (cfs)	Outfall #
SW11	55.02	4.69	SW11
SW12	330.22	8.04	SW12
SW13	226.39	100.51	SW13
SW14	195.95	34.95	SW14

SW12, SW13, AND SW14 basins referenced in the above table will be temporary sediment basins as the contractor re-grades the site and transitions the storm water flow away from basin SW11. SW11 will ultimately be abandoned, filled, or removed as the contractor grades the site to proposed final contours. As the contractor performs site grading, he will simultaneously divert storm water from basin SW11 to SW13 in a sequential fashion. At project completion, when all grading is complete and the site is restored, all storm water will drain to SW12, SW13, or SW14. At this time, the forebay's will be cleaned out and they will become permanent storm water management basins.

Estimating Soil Loss by Water Erosion

The following calculation estimates the amount of soil loss for a pre-development condition, over the same time period as the anticipated grading operations.

A = R K LS C P, where:

A = annual average soil loss in tons per acre per year
R = rainfall-runoff erosivity factor (227)
K = soil erodibility factor, 0.32, silt loam soils
LS = length slope factor, 1.91
C = cover-management factor, 0.01, no till, 50% cover
P = support practice factor, 0.91, Code 4, 2-3" ridges, HSG C

A=227*0.32*1.91*0.01*0.91 = 1.263 ton per acre per year.

Total of Drainage Area A1 through A14 = 470.00 Acres.

Total estimated soil loss per year = 470.00 ac * 1.263 ton per ac = 593.61 ton per year.

Grading operation expected to occur over nine month period = ¾ of a year.

Total estimated soil loss during nine month period (Drainage Area A1 – A14) = 593.61 * 0.75 = 445.21 tons